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Copper tantalite compositions containing trivalent cations

Description of Technology: This invention relates to novel compositions of the formula Cu.sub.3 Ta.sub.3 MO.sub.12 wherein M is Al, Ga, Fe, Cr, Sc or mixtures thereof.

Patent Listing:

1. **US Patent No. 6,765,783**, Issued July 20, 2004, "Copper tantalite compositions containing trivalent cations"

http://patft.uspto.gov/netacgi/nph-Parser?Sect2=PTO1&Sect2=HITOFF&p=1&u=%2Fnetahtml%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&d=PALL&RefSrch=yes&Query=PN%2F6765783

Market Potential: The use of dielectric materials to increase capacitance is well known and long-used. Earlier capacitor dielectrics fell into two categories. The first category of dielectrics has a relatively temperature-independent dielectric constant but the value of the dielectric constant is low, e.g., 5-10. Materials such as electrical porcelain and mica fall in this category. The second category of dielectrics has very high dielectric constant, e.g., 1000 or more, but they are quite frequency dependent. An example is barium titanate, BaTiO.sub.3.

Benefits:

- Useful as capacitors in electronic devices such as phase shifters, matching networks, oscillators, filters, resonators, and antennas

Applications:

- Novel compositions of the formula Cu.sub.3 Ta.sub.3 MO.sub.12 wherein M is Al, Ga, Fe, Cr, Sc, or mixtures thereof

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